

REMARKS:

In response to the Office Action mailed June 19, 2007, claims 38, 39, 92-95, 108, 109, 111, 112, and 115 have been canceled without prejudice, claims 1, 29, 32, 37, 74, 97, 98, 101, 102, 106, 107 have been amended, and new claims 119-130 have been added. Accordingly, claims 1-5, 9, 10, 16, 21, 29-32, 34-37, 41-44, 46-57, 64, 74, 96-107, 113, 114, 116-130 are pending, with claims 3-5, 35, 36, 42-44, 46-50, 55, 57, 64, 92-95, 97-107, withdrawn from further consideration as directed to non-elected species. Support for the amendments may be found throughout the specification and drawings, e.g., at page 17, lines 8-18, between page 21, lines 1 and page 22, line 6, at page 29, lines 9-21, between page 50, line 21 and page 51, line 23, and in FIGS. 25-27, 49-55, and 128-130. No new matter has been introduced. In addition, corrected replacement drawings are filed herewith.

In the Office Action, the drawings were objected to, and claims 1, 32, and 37 were objected to for informalities. In addition, claims 29-31 and 34 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Finally, claim 32 was rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 7,175,659 (“the Hill et al. reference”) and claims 1, 2, 9, 10, 16, 21, 32, 37-39, 41, 51-55, 56, and 74 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 6,066,160 (“the Colvin et al. reference”). Because neither of the cited references, either alone or in combination, discloses, teaches, or suggests the subject matter of the present claims, the rejections should be withdrawn.

First, Applicants appreciate the Examiner’s indication that claims 96, 113, and 116-118 remain allowed. Claims 97, 98, 101, 102, 106, and 107 have been amended to depend from allowed claim 96. Therefore, claims 97-107 should also now be allowable.

In the Office Action, the Examiner also requested additional information, namely a list of co-pending applications that set forth similar subject matter to the present claims. Applicants have filed several applications that are co-pending that relate to the subject matter of the present application, e.g., disclosing and/or claiming multiple component heart valve assemblies and/or gasket members, including Serial Nos. 10/327,821, 10/355,429, 10/765,725, 11/069,081, 11/144,254, 11/069,457, 11/069,617, 11/080,009, 11/279,246, 11/420,720, 11/457,437, 11/567,735, 11/742,424, 11/742,459, 11/742,481, and 11/742,390. The IFW of all of these applications should be available on PAIR.

Turning to the objections to the drawings, corrected replacement drawings are filed concurrently herewith. The new drawings include drawings replacing FIGS. 1-3, which include the legend "PRIOR ART." In addition, FIGS. 26 and 27 have been replaced with drawings that are substantially identical to the original drawings. Applicants apologize for the omissions in previously filed FIGS. 26 and 27.

Turning to the claim objections, claims 1, 32, and 37 have been amended to correct obvious typographical errors, replacing "complementary attachment element" with "complementary attachment device," which has antecedent basis earlier in the respective claim. In addition, claims 32 and 37 have been amended to recite that the complementary attachment device *further* comprises a can and the can is fixedly attached to the gasket body" to clarify that additional features are being presented. Accordingly, these objections should be withdrawn.

Turning to the rejections under § 112, second paragraph, claim 29 has been amended to depend from claim 1, and claims 30, 31, and 34 depend from claim 29. Accordingly, these claims are not indefinite. Accordingly, these rejections should be withdrawn.

Turning to the § 102(b) rejections, the Hill et al. reference discloses an apparatus 1 that includes a first cylinder 10, a second cylinder 20, and, in one embodiment, a valve sleeve 40 surrounding the exterior surface 12 of the first cylinder 10. Col. 6, lines 54-57. The apparatus 1 appears to be intended to capture sutures between the cylinders 10, 20 after being secured within a patient's heart. Col. 7, lines 9-37. Thus, the Hill et al. reference does not disclose, teach, or suggest anything about elongate attachment devices including one or more digitations, detents, or pawls. The Hill et al. reference discloses a tool including a guiding rod 50 for delivering the apparatus 1 into a patient's heart.

Turning to the present claims, claim 32 recites a heart valve device for connection to a first mass that includes a gasket body comprising an annular wall defining a gasket radius around a longitudinal axis central to the gasket body, the wall defining first and second edges, the gasket body further comprising a sewing ring including a skirt extending radially outwardly from the first edge and a complementary attachment device, and an elongate attachment device comprising a plurality of digitations, detents, or pawls, wherein the complementary attachment device comprises an inner attachment radius and an outer attachment radius, wherein the gasket radius, the inner attachment radius and the outer attachment radius are measured from the longitudinal axis, and wherein the outer attachment radius is greater than the gasket radius, and wherein the complementary attachment device further comprises a can and the can is fixedly attached to the gasket body, the can comprising a ratchet tooth for self-ratchetedly engaging the digitations, detents, or pawls on the elongate attachment device when the elongate attachment device is received through the can.

As explained above, the Hill et al. reference fails to teach or suggest an elongate attachment device comprising a plurality of digitations, detents, or pawls, as claimed. Instead, the Hill et al. reference merely discloses conventional sutures. In addition, the Hill et al. reference does not teach or suggest a can fixedly attached to a gasket body, the can comprising a ratchet tooth for self-ratchetedly engaging the digitations, detents, or pawls on the elongate attachment device when the elongate attachment device is received through the can. The eyelet 58 of the Hill et al. reference is not a can fixedly attached to a gasket body, but is instead part of the tool used to deliver the apparatus 1. Thus, the eyelet 58 cannot be a can, as claimed. Further, even if somehow properly construed to be a can, the eyelet 58 does not include a ratchet tooth for self-ratchetedly engaging the digitations, detents, or pawls on an elongate attachment device. Although the Hill et al. eyelet 58 receives a suture 100 therethrough, there is neither a ratchet tooth on the eyelet nor digitations, detents, or pawls on the sutures 100. Accordingly, claim 32 is neither anticipated by nor otherwise obvious over the Hill et al. reference.

For similar reasons, none of the other pending claims are anticipated by nor otherwise obvious over the Hill et al. reference.

Turning to the Colvin reference, apparatus and systems are disclosed “which facilitate securing the ends of standard sutures which can be used to secure tissues to native tissue or prosthetic device.” Col. 1, lines 9-12. In one embodiment, the Colvin reference discloses a suture terminating device 10 positioned inside a valve 30. Col. 9, lines 45-46. In one version, the suture terminating device 70 includes cam members 92 housed within cavities 90 for trapping sutures 76 between the cam members 92 and ridges 88 in the cavities. Col. 11, lines 5, 29-55.

Turning to the present claims, claim 1 recites a heart valve device for connection to a first mass that includes a gasket body comprising an annular wall defining a gasket radius around a longitudinal axis central to the gasket body, the wall defining first and second edges, the gasket body further comprising a sewing ring including a skirt extending radially outwardly from the first edge and a complementary attachment device in the sewing ring, and an elongate attachment device comprising one or more digitations, detents, or pawls, . . . wherein the complementary attachment device comprises a receptacle, the receptacle comprising a ratchet tooth for self-ratchetedly engaging the one or more digitations, detents, or pawls on [[an]] the elongate attachment device received therethrough.

The Colvin et al. reference does not teach or suggest an elongate attachment device comprising one or more digitations, detents, or pawls, nor a ratchet tooth for self-ratchetedly engaging the one or more digitations, detents, or pawls. Instead, the Colvin et al. reference merely discloses standard sutures that are trapped between a cam member 92 and ridges 88 in a cavity 90. Accordingly, claim 1 and its dependent claims are neither anticipated by nor otherwise obvious over the Colvin et al. reference.

Similarly, claims 32 and 37 recite an elongate attachment device comprising *a plurality of* digitations, detents, or pawls, and claim 37 also recites *a plurality of ratchet teeth* for self-ratchetedly engaging the digitations, detents, or pawls on the elongate attachment device when the elongate attachment device is received through the can. Claim 74 also recites an elongate attachment device comprising *a plurality of* digitations, detents, or pawls, and also recites a discrete receptacle attached to the gasket body for receiving the elongate attachment device therethrough, the receptacle comprising *teeth elements comprising shelves and slopes* for self-

fixturingly ratcheting the attachment device through the receptacle. Because the Colvin et al. reference fails to disclose, teach, or suggest such features, 32, 37, and 74 are also neither anticipated by nor otherwise obvious over the Colvin et al. reference.

Turning to claim 119, the Colvin et al. reference does not teach or suggest a plurality of elongate attachment devices receivable through the receptacles, each elongate attachment device comprising a plurality of digitations, detents, or pawls for self-fixturingly ratcheting through a respective receptacle. Finally, the Colvin et al. reference fails to disclose, teach, or suggest a plurality of elongate attachment devices receivable through respective fixturing devices on a gasket body, each elongate attachment device comprising a plurality of digitations, detents, or pawls for self-fixturingly ratcheting through a respective fixturing device, as recited in claim 125. Accordingly, claims 119 and 125 and their dependent claims are also neither anticipated by nor otherwise obvious over the Colvin et al. reference.

In view of the foregoing, it is submitted that the claims now presented in this application define patentable subject matter over the cited prior art. Accordingly, reconsideration and allowance of the application is requested.

Respectfully submitted,
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